

# Volatile Organic Compounds from Processes and Consumer Products

Recommendations for Further Consideration

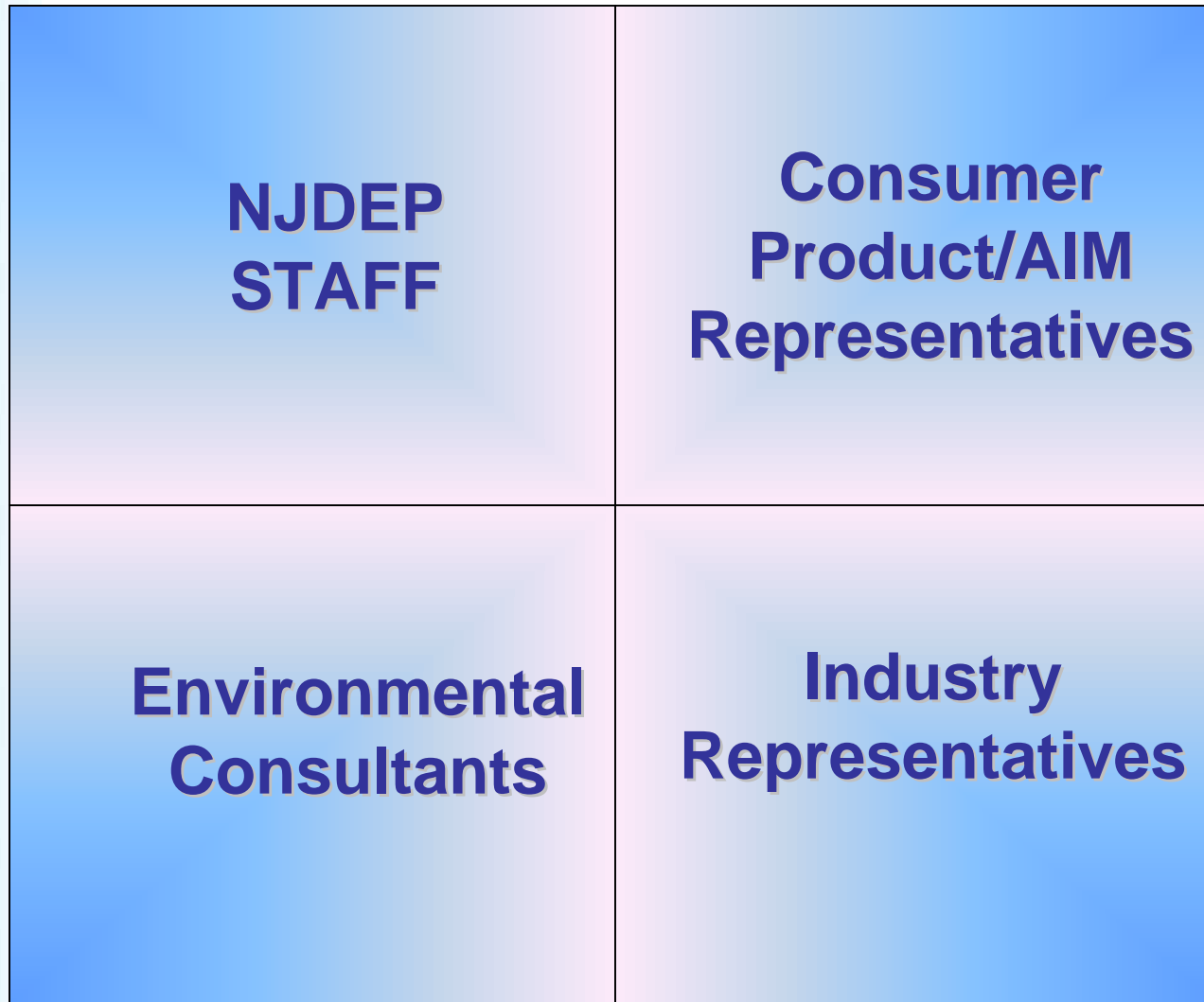


Bob Heil

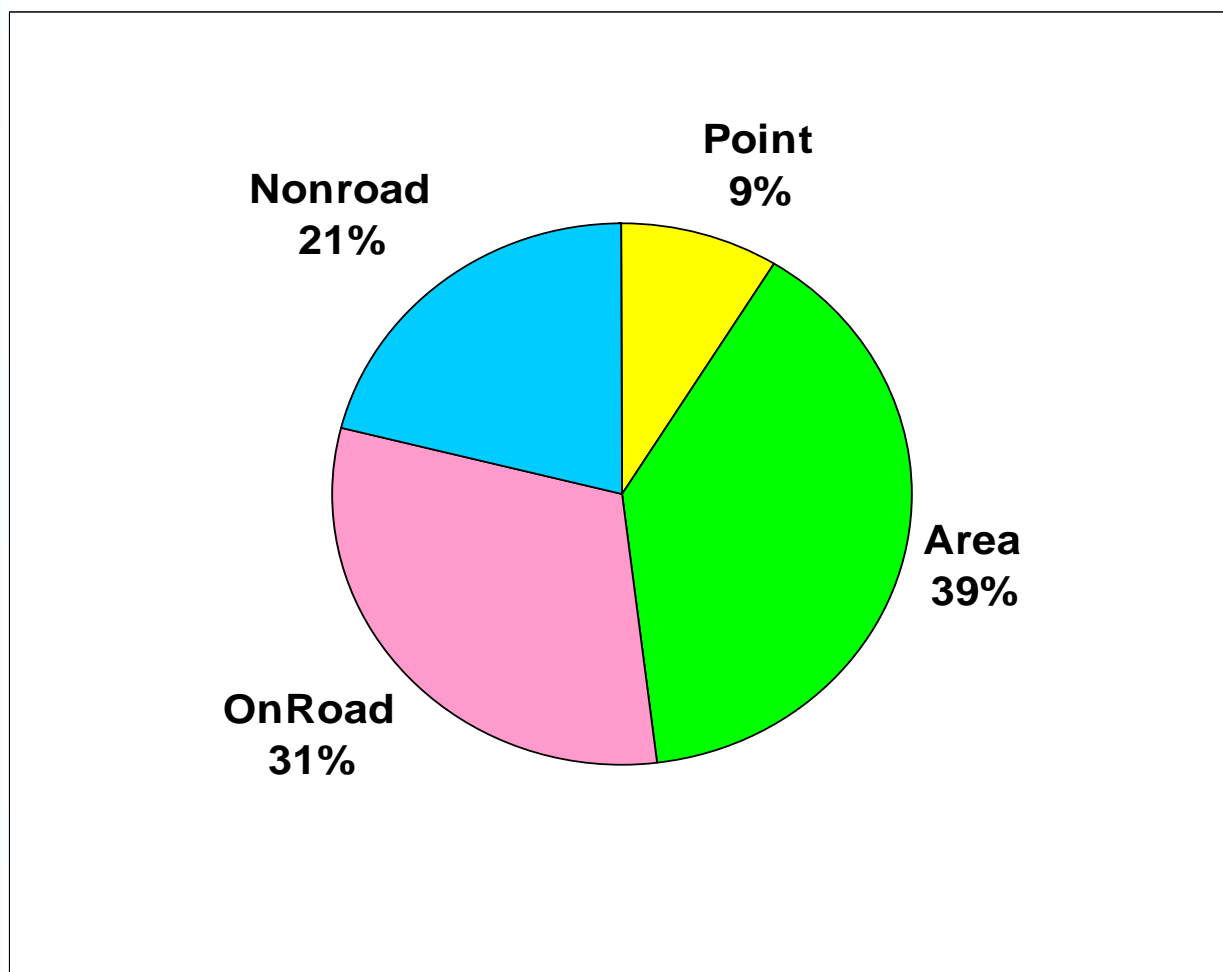
Workgroup Leader

November 14, 2005

# Workgroup Structure



## 2002 Draft New Jersey VOC Emissions by Sector\*



\*Total VOC Emissions - 333,589 tpy (Anthropogenic Sources Only)

# Basis of Discussion

- NJAC 7:27-24 - Control of VOC from Consumer Products and Portable Fuel Containers
- NJAC 7:27-23 - Control of VOC from Architectural and Maintenance Coatings
- NJAC 7:27-16 - Control of VOCs from Industrial Processes
- 2002 DRAFT NJDEP Emission Inventory
- **Brainstorming Sessions**

# Tracking Table



Discussion Item

Tracking # VOC-004

Proposal	Control Measure Description	Criteria for Consideration	Discussion Pros	Discussion Cons	Conclusions
Accelerate use of new Portable Fuel Containers (PFC)	New PFCs emit less VOC and reduce spillage. Thus incentives to replace older cans, such as by making older cans unfillable or a "change-out program", should result in increased VOC emission reductions earlier than expected	Technical Feasibility	Change out programs exist in other states	Will one be able to make older cans inoperable?	Consider two prong program to accelerate use of new PFCs:
		Economic Feasibility		Change out programs require expenditures	1) An educational program on the amount of emissions associated with older PFCs and their use, coupled with a change-out and/or rebate program possibly through partnership with a company or use of SEP money and
		Environmental Benefits	New PFC emit 8.59 TPD less VOC		2) Consider mandatory use of new PFCs by not allowing gas stations to fill PFCs unless they are approved.
		Implementation Issues		Requires public outreach and education on the topic	
		Compliance Issues			Implementation of the educational program gets the subject on the public's radar screen and offers them an opportunity to be proactive. Mandatory program completes the turnover.

# Prioritization of Proposals

		Economically Feasible	Ease of Implementation	Ease of Enforcement	Potential Emission Reductions
<b>Most Promising</b>					
VOC-001	Further regulation of degreasers	X	X	X	X
VOC-003	Additional control of consumer products				X
VOC-004	Accelerate conversion to new portable fuel containers				X
VOC-005	Requiring new technology at gasoline stations to reduce vapors	X	X	X	X
VOC-011	Control of refinery flares	X		X	X
<b>Promising</b>					
VOC-002	Control of consumer products and AIM aerosol products through reactivity-based regulations	X			X
VOC-006	Improve gasoline dispensing through public outreach and education	X	X		
VOC-008	Further capture and control of emissions from bulk tank terminals				X
VOC-015	Investigate and control tank cleaning operations at large bulk tank terminals		X	X	
VOC-017	Improvements in leak detection and repair		X	X	
<b>Least Promising</b>					
VOC-010	Lower exclusion rate of NJAC 7:27-16.7		X	X	
VOC-012	Further control of landfill gases		X	X	
VOC-014	Require the use of "green" cleaning/maintenance products for State contracts		X	X	
<b>Needs Further Investigation</b>					
VOC-009	Further control of graphic arts sources		X	X	
VOC-016	Further reduce emissions from publicly owned treatment works				
<b>Parking Lot Proposals</b>					
VOC-007	Investigate marine ballasting operations				
VOC-013	Improve NJDEP emission inventory				
VOC-018	Update emissions factor for graphic arts sources				

# Further Control of Degreasers

- Multi-faceted approach recommended:
  - Increase Rule Effectiveness by Educational Outreach and
  - Enforcement Alerts
- Encourage the use of aqueous solvents
- Permitting consistency
- Also has health benefits



# Additional Control of Consumer Products

- Further regulation of consumer products is under consideration in California
- California initiative is being questioned by Consumer Product manufacturers on the grounds of technical and economic feasibility
- The Workgroup recommends:
  - that New Jersey consider adoption of additional controls for consumer products and
  - that New Jersey work with the USEPA on programs that would grant SIP credits without the State being required to adopt their own command and control regulations.



# Accelerate Conversion to New Portable Fuel Containers

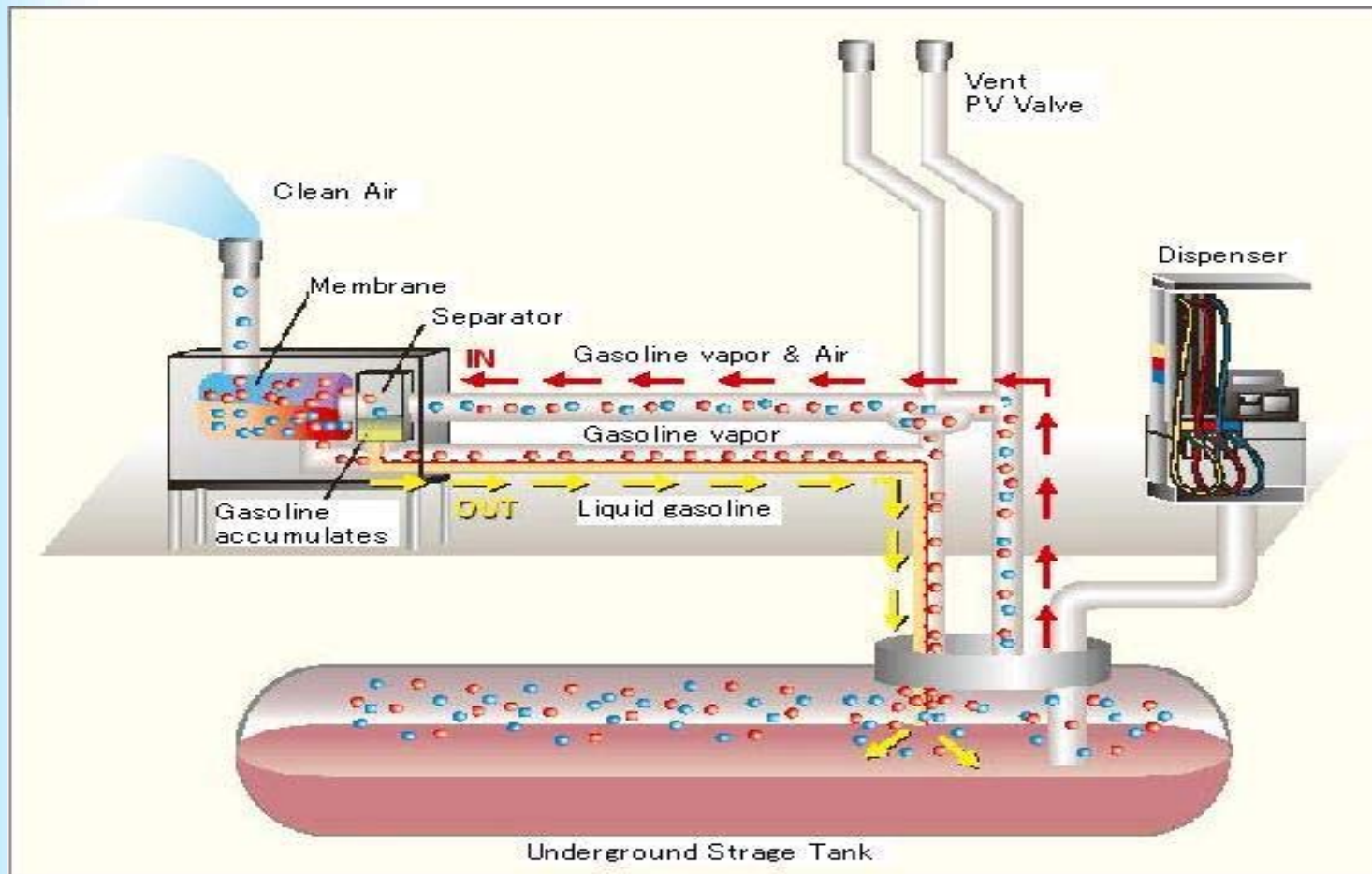
- Older gas cans cause VOC emissions from permeation, breathing losses, spillage issues
- The Workgroup recommends accelerating a changeover to new PFCs by a multi-tiered approach: Public Outreach, SEP, or Mandatory changeout
- Utilizes existing regulation



# New Technology to Reduce Gasoline Vapors at Fueling Stations

- The Workgroup recommends that NJDEP further evaluate a new technology: an add-on control device located at the vent pipes to minimize emissions from working and breathing losses
- Proposed new technology could reduce emissions by up to 90%
- Most promising results are at “Vacuum Assist” stations, which are typically the largest volume stations in New Jersey.

# New Technology to Reduce Gasoline Vapors at Fueling Stations cont...



# Further Control of Refinery Flares

- Current Consent Decrees
- Controls are economically feasible; recovered gas is a valuable fuel source
- The Workgroup recommends:
  - **monitoring and recording of flare events**
  - **installation of a gas recovery system for currently uncontrolled gas streams**



# Control of Consumer Products/AIM via Reactivity-Based Regulations

- **The Workgroup recommends that NJDEP:**
  - consider adoption of California's aerosol coating reactivity-based emission standard,
  - move toward reactivity-based emission standards for consumer and AIM products as their technical feasibility is demonstrated, and
  - if the USEPA proceeds with a National reactivity-based regulation for aerosol coatings on a schedule that would allow New Jersey to receive SIP credit by 2009, then the Workgroup recommends that New Jersey should not go forward with a state rule.

# Improve Gasoline Dispensing through Public Outreach and Education

- “No topping off” by attendants
- Improved operations and maintenance of Stage II
- Vapor recovery equipment
- Fleet vehicle refueling
- Weights & Measures requirements for pump calibration testing at retail gas stations



# Further Capture and Control of Emissions from Bulk Tank Terminals

- Additional controls could be considered
- Additional tanks could potentially be required to meet the standards imposed on newer tanks by federal NSPS and MACT standards





# Investigate and Control Tank Cleaning Operations at Large Bulk Tank Terminals

- Single tank cleaning events can cause significant emissions
- Tank cleanings are conducted infrequently (once every 10-20 years on an API schedule)
- Safety Concerns
- Major bulk tanks in port areas
- Best Operating Practice Guidelines or Non-Ozone season cleanings





# Leak Detection and Repair

- Innovative Technology
- Identifying fugitive leaks and emission sources
- Inclusion of additional or non-traditional sources
- Implementation: DEP mandate?
- Private Sector Initiative?



# White Papers

Title	Author	Corresponding Proposal(s)
Reactivity-Based Approaches to Control VOCs A Compendium of Recent Developments	ACC American Solvents Council	VOC-002
Letter addressed to Mr. Heil and the Members of the VOC Air Workgroup dated September 6, 2005	National Paint and Coatings Association	VOC-002
White Paper on Future Regulation of Consumer and Commercial Products by the New Jersey Department of Environmental Protection – Tracking # VOC - 003	Consumer Specialty Products Association	VOC-003
White Paper on Future Regulation of Consumer and Commercial Products by the New Jersey Department of Environmental Protection – Tracking # VOC - 003	Cosmetic, Toiletry and Fragrance Association	VOC-003
NPCA comments on reactivity and emission inventory	National Paint and Coatings Association	VOC-002, VOC-013
Re: Volatile Organic Compounds from Processes and Consumer Products Workgroup: VOC-005 - New membrane technology to control VOCs from gasoline retail tanks.	New Jersey Petroleum Council	VOC-005
Graphic Arts White Paper For the Processes and Consumer Products Workgroup	Graphic Arts Association, Association of Graphic Communications, Specialty Graphic Imaging Association and Flexographic Technical Association	VOC-009, VOC-010, VOC-018
Re: Comments on VOC emissions from publicly owned treatment facilities	Association of Environmental Authorities	VOC-016

# Conclusion, Not the End



# State Team Members

- Bob Heil - Workgroup Leader, NJDEP
- Tonalee Key - Co-Facilitator, NJDEP
- Nicholle Jackson - Co-Facilitator, NJDEP
- Mike Adhanom - NJDEP
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